$P := 1000$ $ph := 2500$ $T := 1000$ $J := 778.169262266$

$feed := ST\_ptdata(14.696, 180, 1, 1)$ Feed water 1 ATM and 180F

$P1 := ST\_ptdata(P, T, 1, 1)$

$P2 := ST\_ptdata(30, P1_5, 5, 1)$

$r := \frac{P2_2}{P1_2}$ $r = 15.99007$

$T2 := T$

$H1 := P1_4 - feed_4$

	0
0	1000
1	1000
2	0.82954
3	1351.93682
4	1505.44366
5	1.65305
6	1
7	0.5659
8	0.42229
9	0.00105
10	0.00082
11	2216.1166

$P1 =$

$$P2 = \begin{pmatrix} 30 \\ 250.33536 \\ 13.26446 \\ 1057.51779 \\ 1131.15533 \\ 1.65305 \\ 0.96509 \end{pmatrix}$$

$W1 := P1_4 - P2_4 + \left(P2_0 - 14.696\right) \cdot P2_2 \cdot \frac{144}{J}$ $W1 = 411.85329$ per pound

$P1 := ST\_ptdata(ph, T2, 1, 1)$

$p3 := \frac{P}{r}$ $v2 := P1_2 \cdot r$

$p3 := root\left(ST\_ptdata(p3, v2, 2, 1)_5 - P1_5, p3\right)$

$P3 := ST\_ptdata(p3, v2, 2, 1)$

$H2 := P1_4 - feed_4$

	0
0	2500
1	1000
2	0.3068
3	1315.58031
4	1457.51255
5	1.5269
6	1
7	0.67431
8	0.4568
9	0.00046
10	0.00109
11	2144.62823

$P1 =$

$$P3 = \begin{pmatrix} 82.34911 \\ 314.04716 \\ 4.90572 \\ 1037.99834 \\ 1112.75506 \\ 1.5269 \\ 0.92122 \end{pmatrix}$$

$W2 := P1_4 - P3_4 + \left(P3_0 - 14.696\right) \cdot P3_2 \cdot \frac{144}{J}$ $W2 = 406.17314$

$\frac{W1}{H1} = 30.34073\,\%$ $\frac{W2}{H2} = 31.01751\,\%$

$$TurnDown := \frac{\left(\frac{W2}{P3_2}\right)}{\left(\frac{W1}{P2_2}\right)}$$ $TurnDown = 2.66658$